

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 02-289351

(43)Date of publication of application : 29.11.1990

(51)Int.Cl.

B41J 2/045

(21)Application number : 01-099861

(71)Applicant : RICOH CO LTD

(22)Date of filing : 18.04.1989

(72)Inventor : TAKEMOTO TAKESHI

KOMAI HIROMICHI

HORIIE MASANORI

MURAKAMI KAKUJI

NAGAI KIYOFUMI

(30)Priority

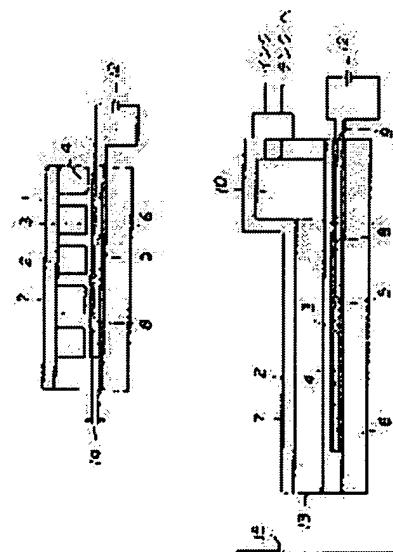
Priority number : 64 38866 Priority date : 17.02.1989 Priority country : JP

## (54) RECORDING HEAD

(57)Abstract:

PURPOSE: To rapidly raise a dielectric constant to allow the pulsative use of a direct current bias voltage and to use a heating pulse with a low drive voltage to realize a reduction of cost to a great extent by providing a first electrode using a vibrating member for a part or all of a flow path component forming a flow path for a recording material and a second electrode formed out of the flow path correspondingly to the first electrode.

CONSTITUTION: Discrete electrodes 4 disposed on the rear surface (where a flow path 7 is not formed) of a vibrating plate 3 each hold insulating properties. A common electrode 5 is disposed on a substrate 6 on a position corresponding to the discrete electrodes 4 spaced an appropriate gap 14 therefrom and connected to a power source 12. When a voltage is applied between the discrete electrodes 4 and the common electrode 5 in this construction, the vibrating plate 3 is deflected due to an electrostatic force, the capacity of the flow path 7 is increased, and an ink is supplied from a common liquid chamber 10. After that, when the applied voltage is interrupted, the deflected vibrating plate 3 is recovered to the former state to pressurize the ink in the flow path 7. Then, the



ink is jetted out of a jetting port 13 by the pressurized energy as an ink drip to be applied on paper 15 and recorded. A drive generation part is not formed within the flow path but out of the flow path, thus eliminating the need for taking the characteristics of the ink (e.g., a dielectric constant and insulating properties) into consideration.

---

## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2000 Japan Patent Office